

20-17

16 F. '95

GOLDING EVAPORATOR CO.

LIMITED





10 672-134900 T2R



10 88-134900 1CF

GOLDING EVAPORATOR.

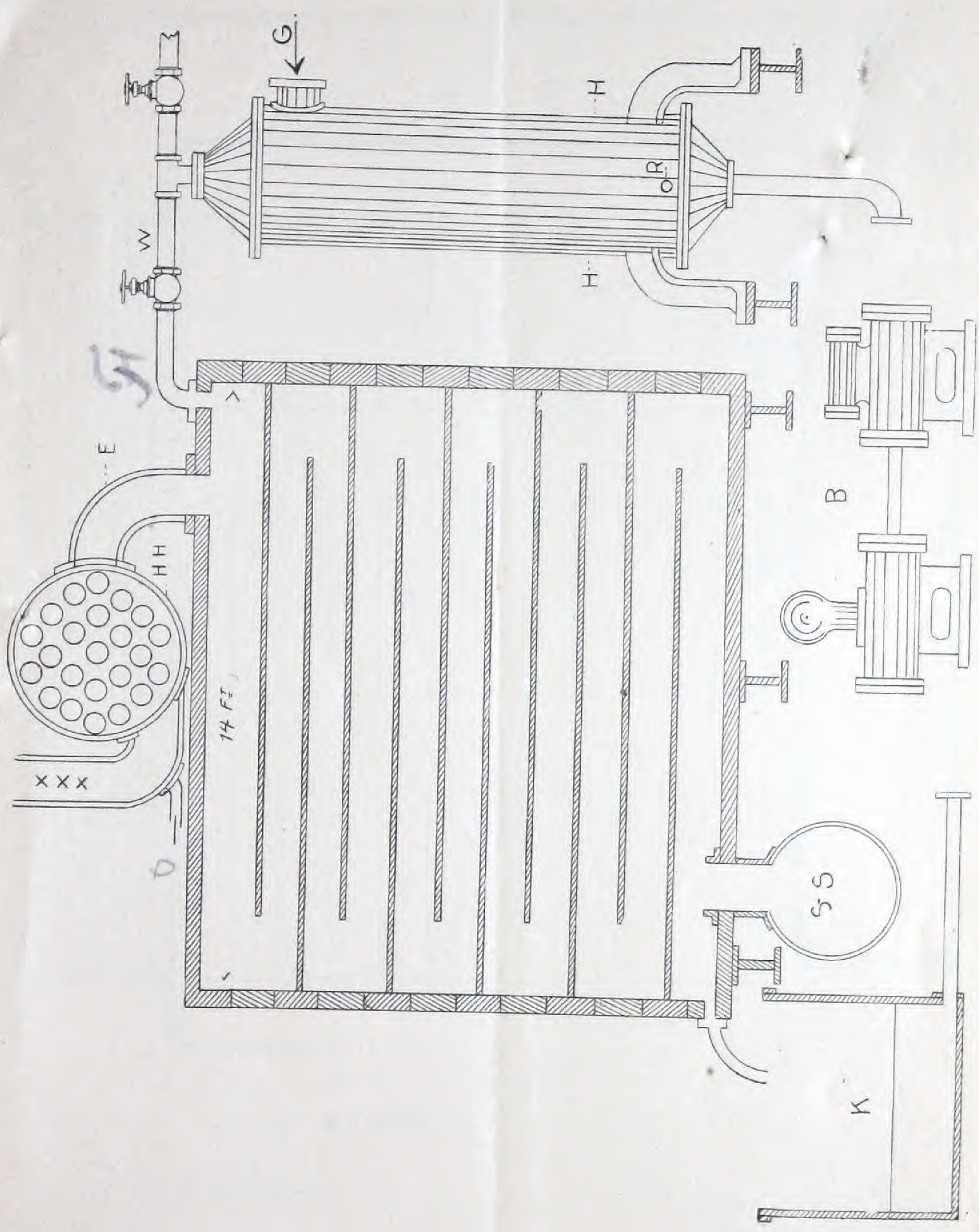


FIGURE 1.—SIDE ELEVATION.







# GOLDING EVAPORATOR.

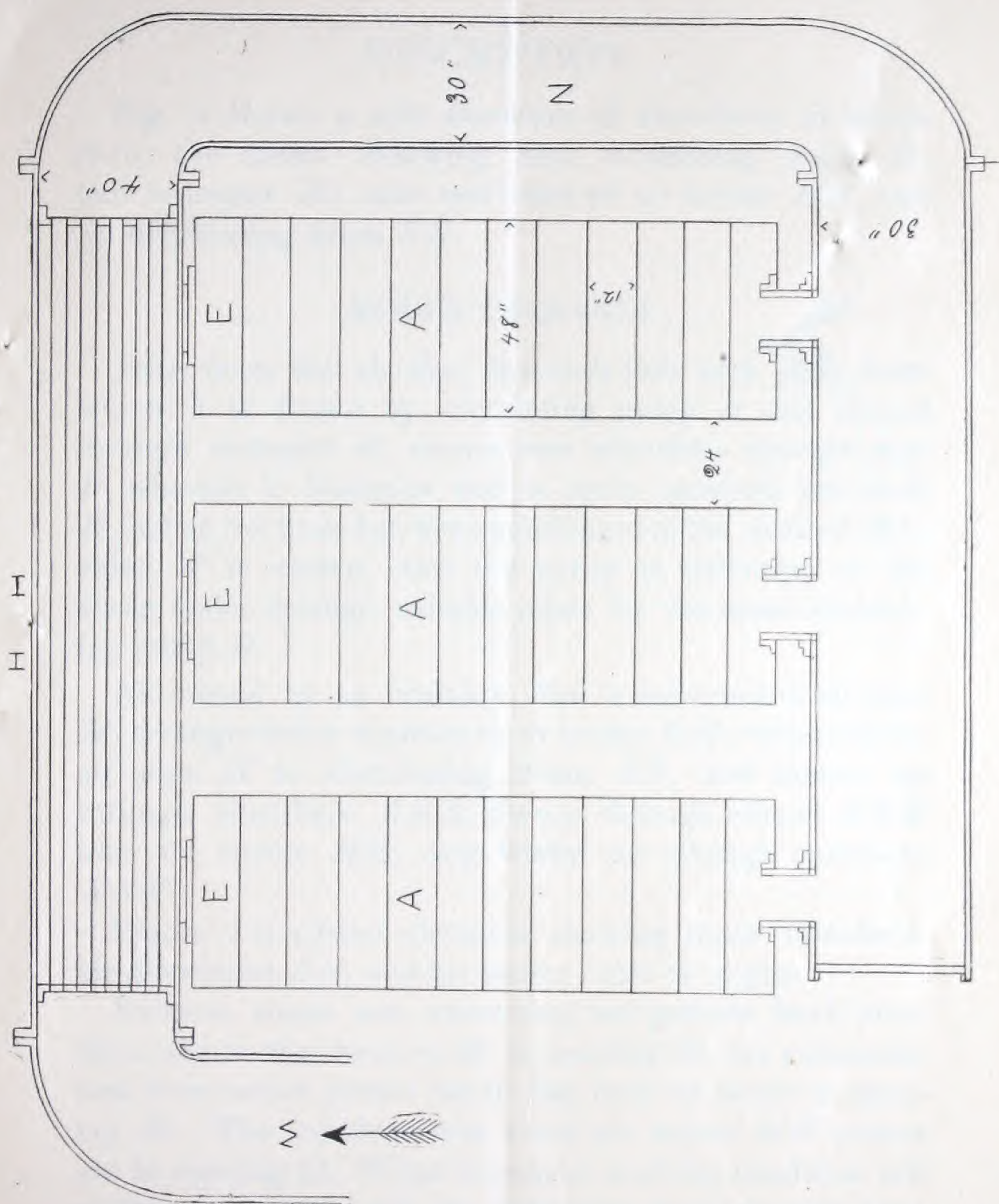
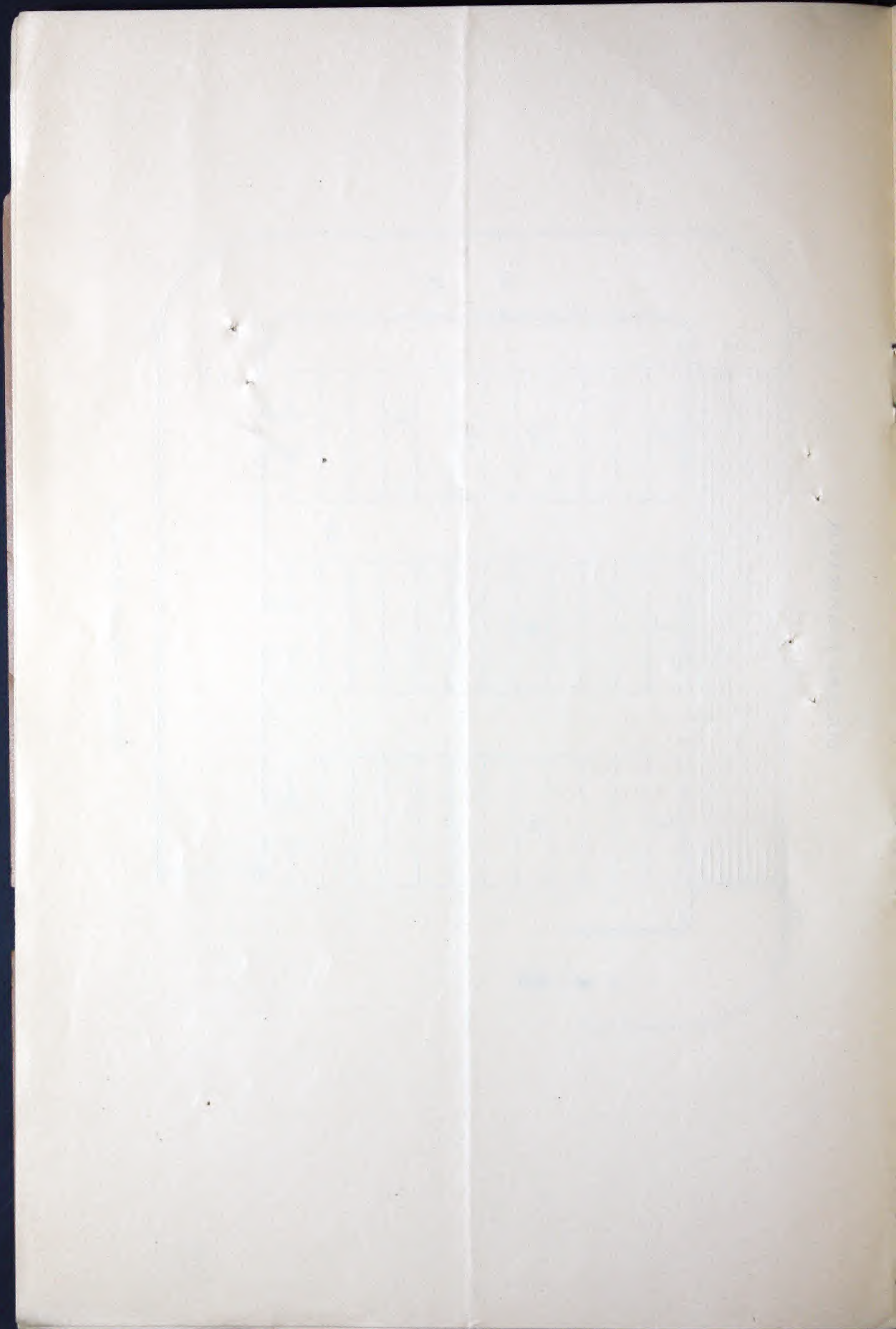


FIGURE 2.—FRONT ELEVATION.







## DESCRIPTION.

Fig. 1 shows a side elevation of absorbers, of which there are three. Showing also circulating pump *B*, and re-heater *H*; also end view of air heater *HH*, and air distributing drum *SS*.

## MODUS OPERANDI.

Juice from the clarifier descends into tank *SS*, from which it is drawn by circulating pump *B* and forced through re-heater *H*, thence into absorber, through pipe *F*, wherein it descends and is again received into tank *K*; when the juice has been condensed to the desired *Bé.*, valve *W* is closed, and the syrup is delivered to the syrup tanks through suitable pipes by the same circulating pump *B*.

Air moved by an ordinary *Fan* is delivered to air pipe *M*, through which it passes to air heater *HH*; thence down air pipe *N* to distributing drum *SS*, and thence up through absorbers *AAA*, thence through elbows *EEE* into air heater *HH*, and finally out through chimneys *XXX*.

Figure 2 is a front elevation showing three absorbers, air distributor *SS*, and air heater; also air pipes.

Exhaust steam not exceeding two pounds, back pressure, enters the heaters *H* at opening *G*, the condensation from which passes out in the form of water at opening *R*. The condensation from air heater *HH* passes out at opening *O*. When in proper working condition 100 gallons per minute will be delivered through each juice heater into absorber at a temperature not exceeding 190 deg. In passing through the absorber this temperature will fall to 140 deg., where, in passing again through the



reheater *H*, the temperature of 190 deg. will be again restored.

The air having passed through the absorber, has a temperature of 180 deg., and, as herein utilized, heats the incoming air from normal to 140 deg., which is all that is desired.

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From the Daily Picayune, November 19, 1893.

## A SUCCESSFUL INVENTION.

### THE GOLDING EVAPORATOR AT WORK.

The Golding's Continuous Dry Air Evaporating Process is in full operation at Dr. Geo. A. Louque's Lafreniere plantation, Jefferson parish, I am pleased to inform my confrere sugar planters and sugar makers; also all parties who may have or take a little interest in the simplicity and wonderful results of Mr. Wm. Golding's apparatus.

Through hard work and a great deal of study, Mr. Golding has finally overcome all obstacles, and his way of evaporating cane juice is beyond criticism.

Mr. Golding's machine has been in operation for the past week, making the whole of the house's syrup, over 25,000 pounds of sugar for twenty-four hours, and is keeping out of the way of the mill, taking well brushed juice from the clarifiers.

The apparatus uses only exhaust steam from the mill engine at three pounds pressure.

Another pleasing fact to announce is that, previous to Mr. Golding's starting up, it was necessary to fire up three sets, eight boilers, to keep the whole house working. Now the bagasse burner and one set of boilers give enough of steam to run all the machines in the sugar house with ease.



I cordially invite all parties interested in the sugar industry to visit the evaporator at the Lafreniere plantation, and to ascertain the above facts.

Respectfully,

J. F. LOUQUE, *Manager.*

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From the Sugar Bowl and Farm Journal, Saturday,  
December 23, 1893.

### THE GOLDING EVAPORATOR.

As the new evaporator of Mr. Wm. Golding has just closed a second successful season at Dr. Geo. A. Louque's Lafreniere plantation, in Jefferson parish, the following description of it will interest all our readers:

The Golding Dry Air Evaporator is designed to utilize the absorbing power of the atmosphere for the removal of water from cane juice or other solutions containing solids.

The capacity of the atmosphere for moisture depends entirely upon its temperature; for example, at 60 degrees it contains five and eight-tenths grains of moisture per cubic foot, while at 200 degrees it can take up 265 grains per cubic foot. Thus it will be seen that by imparting heat to the atmosphere moisture is taken up, and by the withdrawal of heat from the atmosphere moisture is precipitated.

The atmosphere absorbs moisture at all temperatures below 212 degrees, and can therefore utilize low temperature; for example, the exhaust steam from a steam engine having a temperature of only 212 degrees can be utilized in absorbing moisture from solutions at any desired temperature and with equal economy, for while the range of temperature is low the total heat units from a given source remain the same.

In this process a low grade heat otherwise going to



## SYRUP.

Total solids .....	42.02
Sucrose .....	31.40
Glucose.....	5.50
Purity .....	74.73
Glucose ratio.....	17.50

He says:

The juice enters the apparatus at 180 deg. F. and leaves it at 140 deg. F. Of the above syrup the apparatus turned out 225 gallons per hour. The analyses indicate a very slight inversion, but this is apt to occur in any process of concentrating juices. The system of evaporation is such that there is no possible chance for entrainment.

Mr. Golding claims for his apparatus:

1. That it will effect the whole evaporation of the juice by the exhaust steam of the cane mill engine.
2. That the evaporation will be effected with absolutely no entrainment.
3. That no steam is required for air pumps, nor the immense water supply of ordinary condensation, a small juice circulating pump and a small engine and fan constituting the total requirement of live steam.
4. That the entire mechanism, while effecting its work in a superior manner, and without waste, and with extreme economy, will not require a first cost for the apparatus of over 50 per cent. of that required for any standard evaporating apparatus of equal capacity.

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57 CARONDELET STREET,  
NEW ORLEANS, December 26, 1893.

*Wm. Golding, Esq.*—DEAR SIR: I take pleasure in saying that I have visited the plantation of Mr. Louque on which your hot air evaporator was working and was much pleased at its operation.

It seems to me to be a most valuable invention—simple, cheap and efficacious, easy to manage, doing its work well



and fills a want long felt of a cheap fuel-saving evaporator for cane juice.

Wishing you every success with it, yours truly,

FREDERIC COOK.

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The apparatus is now completed and there remains nothing to be done except to put it expeditiously upon the market. To those who have contributed to bringing the apparatus to its present condition of success, the State will be ever indebted.

We can not expect at this late day, as the result of research and investigation, to discover a continent; yet we can reasonably expect by the intelligent application of mechanics, physics and chemistry to our agricultural industry to discover a means by which a State may be saved.

For further particulars address:

GOLDING EVAPORATOR CO., LTD.,

POSTOFFICE BOX 986, NEW ORLEANS, LA.



THE UNIVERSITY OF CHICAGO  
DEPARTMENT OF CHEMISTRY  
CHICAGO, ILLINOIS

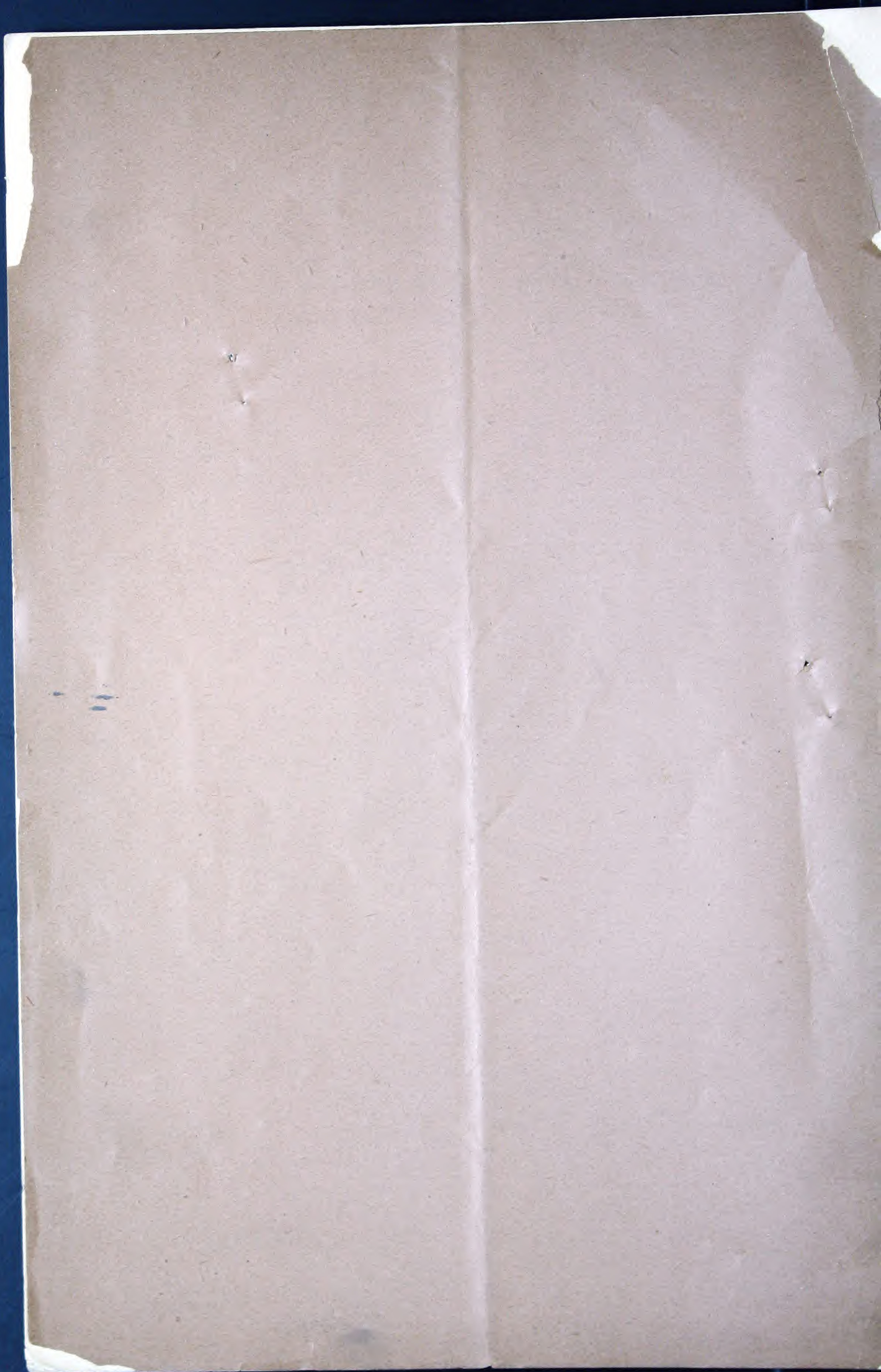
TO THE HONORABLE  
THE SENATE OF THE UNIVERSITY OF CHICAGO  
IN RESPONSE TO A RESOLUTION PASSED  
AT ITS MEETING OF MAY 10, 1955  
RELATIVE TO THE  
REVISION OF THE BY-LAWS OF THE  
UNIVERSITY OF CHICAGO

BY  
J. H. COOPER, JR.  
CHICAGO, ILLINOIS











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